

STATE OF VERMONT
PUBLIC UTILITY COMMISSION

Case No. 18-2902-PET

Petition of GMP-Essex Solar/Storage LLC for a certificate of public good, pursuant to 30 V.S.A. § 248, authorizing the installation and operation of a 4.5 MW solar electric generation facility and 2 MW battery storage facility in Essex, Vermont	Hearings at Montpelier, Vermont December 20, 2018
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Order entered: 01/16/2019

PRESENT: John J. Cotter, Esq., Hearing Officer

APPEARANCES: Gregory Boulbol, Esq.
Vermont Natural Resources Board

Daniel C. Burke, Esq. and Alexander Wing, Esq.
Vermont Department of Public Service

Donald J. Einhorn, Esq.
Vermont Agency of Natural Resources

Andrew N. Raubvogel, Esq. and Victoria Westgate, Esq.
Dunkiel Saunders Elliott Raubvogel & Hand, PLLC
for GMP-Essex Solar/Storage LLC

Alison Milbury Stone, Esq.
Vermont Attorney General's Office
for Vermont Agency of Agriculture, Food and Markets

FINAL ORDER GRANTING CERTIFICATE OF PUBLIC GOOD

In this Order, the Vermont Public Utility Commission ("Commission") adopts the findings, conclusions, and recommendations made in the Hearing Officer's proposal for decision.

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I. INTRODUCTION

This case involves a petition filed by GMP-Essex Solar/Storage LLC (“GESS” or the “Petitioner”) with the Vermont Public Utility Commission (“Commission”) requesting a certificate of public good (“CPG”) under 30 V.S.A. § 248 authorizing the construction and operation of a 4.5 MW solar electric generation facility and a 2 MW battery storage facility off River Road in Essex, Vermont (the proposed “Project”).

In this Proposal for Decision, I recommend that the Commission approve the Project and issue a CPG, subject to conditions.

II. PROCEDURAL HISTORY

On August 13, 2018, the Petitioner filed a petition with supporting testimony and exhibits (the “Petition”) requesting a CPG to install and operate a 4.5 MW solar electric generation facility and a 2 MW battery storage facility off River Road in Essex, Vermont.

On August 14, 2018, the Commission issued a memorandum finding the Petition administratively complete.

On September 4, 2018, the Chittenden County Regional Planning Commission filed public comments on the Project.

On September 24, 2018, I convened a prehearing conference. Appearances were entered at the prehearing conference¹ by Daniel Burke, Esq. for the Vermont Department of Public Service (“Department” or “DPS”); Donald J. Einhorn, Esq. for the Vermont Agency of Natural

¹ Additional appearances were filed in writing and are noted on the cover page to this proposal for decision.

Resources (“ANR”); Alison Milbury Stone, Esq. for the Vermont Agency of Agriculture, Food, and Markets (“AAFM”); and Andrew N. Raubvogel, Esq. for the Petitioner.

On October 9, 2018, a site visit and public hearing were held. No members of the public attended either the site visit or public hearing.

On October 16, 2018, the Vermont Division for Historic Preservation (“DHP”) filed comments on the Project.

On October 16, 2018, the Vermont Natural Resources Board (“NRB”) filed comments on the Project and a motion to intervene. I granted NRB’s motion to intervene by order dated October 22, 2018.

On November 30, 2018, GESS filed supplemental testimony and exhibits, and the DPS filed testimony.

On December 3, 2018, GESS filed a revised version of exhibit GESS-WV-11, a stipulation between the Petitioner and ANR.

On December 7 and 17, 2018, GESS filed additional supplemental testimony.

An evidentiary hearing was held on December 20, 2018, in the Susan M. Hudson hearing room in Montpelier, Vermont.

III. PUBLIC HEARING AND COMMENTS

On October 9, 2018, I convened a public hearing at the town offices in the Town of Essex, Vermont. No members of the public attended the hearing.

However, public comments were filed by the Chittenden County Regional Planning Commission on September 4, 2018. Those comments were supportive of the Project based on representations made by GESS regarding the design and construction of the Project. Therefore, I recommend that the Commission take no specific action in response to the comments.

Additionally, comments were filed by DHP on October 16, 2018. Those comments stated that the Project would not have an impact on any historic resources. Accordingly, the Commission need not take any action in response to those comments.

IV. FINDINGS

Based on the Petition and the accompanying record in this proceeding, I have determined that this matter is ready for decision. Based on the evidence of record, I hereby report the following findings to the Commission in accordance with 30 V.S.A. § 8(c).

Description of the Project

1. GESS is an affiliate of Green Mountain Power Corporation (“GMP”) and is a limited liability company registered to do business in Vermont, with principal offices at 163 Acorn Lane, Colchester, VT 05446. Petition at 1.

2. The Project is a combination of solar generation and battery storage to be sited on a ± 25-acre leased portion of a ± 86-acre parcel of land located off River Road in Essex, Vermont. The footprint of the Project is approximately 28.4 acres. William Veve, GESS (“Veve”) pf. (8/10/18) at 3; exh. GESS-WV-14.

3. The solar component of the Project consists of up to a 4.5 MW solar photovoltaic (PV) electric generation facility. The battery storage component is a 2 MW battery system with controls that can provide 2 MW of continuous electrical output for up to four hours (8 MWh). The Project is expected to generate approximately 8,000 MWh of electrical energy per year. Veve pf. (8/10/18) at 3.

4. The Project will be located at the site of a former sand extraction operation on a plateau on primarily open terrain. Veve pf. (8/10/18) at 5; Natalie Steen, GESS (“Steen”) pf. at 4.

5. The Project will have no visible neighbors due to topography and surrounding vegetation. The nearest residence is over 900 feet away to the southwest and separated by topography (the Project is uphill) and a dense wooded buffer. To the east is extensive woodland, a utility corridor, and another extraction area. Extraction activities continue to the northeast of the Project and beyond that is part of the Saxon Hill Forest and Industrial Park. Located to the south on River Road is primarily lower-density residential development. To the west, Sand Hill Road runs north-south and is characterized by medium-density residential development that transitions to industrial development near Allen Martin Drive. The nearest residence on Sand Hill Road is about 1,500 feet away and is separated by topography and a dense woodland buffer. Steen pf. at 4.

6. The Project's solar component will consist of 18,326 solar panels of 365 watts each mounted on fixed-tilt racking, approximately 89 string inverters, and three concrete transformer pads/vaults with secondary oil containment capable of holding 110% of the volume of the transformer plus five inches of freeboard. Veve pf. (8/10/18) at 5-6; exh. GESS-WV-14.

7. The battery component will consist of a 2 MW/8 MWh Tesla Powerpack system, GridLogic system control technology, and Tesla inverters. Veve pf. (8/10/18) at 6; exh. GESS-WV-2.

8. Final equipment selection will be made after vendors are chosen and permitting is complete. Veve pf. (8/10/18) at 6-7.

9. The site will be accessed from River Road using an existing access road that will be upgraded as needed and extended into the Project. Veve pf. (8/10/18) at 8.

10. The nearest State or municipal highways are River Road and Sand Hill Road. Veve pf. (8/10/18) at 21.

11. The Project site will be enclosed by a fixed-knot fence with 6-inch vertical spacing. The fencing will be secured and kept close to ground level to avoid access by larger wildlife species. Veve pf. (8/10/18) at 6; exhs. GESS-WV-2, GESS-WV-14.

12. The fence will be 7' to 8' high in most areas. The fence will satisfy the National Electrical Safety Code. Veve pf. (8/10/18) at 6; exhs. GESS-WV-2, GESS-WV-14.

13. Electrical lines will run in a conduit underground from the transformers to the point of interconnection at GMP's existing 34.5 kV line to the west of the Project. Veve pf. (8/10/18) at 6.

14. The battery storage system will be located entirely within a closed fenced area within the boundary of the facility, will interconnect to the solar facility's terminating cabinet, and will work in concert with that system. Power cables from the battery storage system will run underground to the point of interconnection. Veve pf. (8/10/18) at 7; exh. GESS-WV-14.

15. Sound will be produced by the solar string inverters, Tesla Powerpack batteries and inverters, and transformers. Jewkes pf. (8/10/18) at 3.

16. The Tesla equipment will be encircled by a fence on which a sound-deadening blanket will be attached. Jewkes pf. (8/10/18) at 3; exhs. GESS-IJ-3, GESS-WV-14.

17. After combining operational sounds from all of the proposed Project's equipment, and accounting for the attenuation of sound over distance, it is estimated that the Project will produce a maximum sound level at the nearest offsite residence of 34 dBA (daytime) and 33 dBA (nighttime). This estimated level is based on applying the most conservative assumptions and is below the residential noise guidelines established by the U.S. Environmental Protection Agency. Jewkes pf. (8/10/18) at 4; exhs. GESS-IJ-3, GESS-WV-14.

18. In order to maximize the cost-effectiveness of the Project for its customers, GMP is using a partnership flip financing structure to make use of available Investment Tax Credits. GMP created GESS as an affiliate company to own and operate the Project and to accommodate inclusion of a tax equity partner. GESS will be jointly capitalized by GMP (about 60%) and by a tax equity partner (about 40%), either directly to the Project entity or through a holding company. All products and attributes produced by the Project will flow directly to GMP customers through a Power Purchase Agreement ("PPA") between GMP and GESS. Kirk Shields, GESS ("Shields") pf. (8/10/18) at 19-20.

19. The total constructed cost of the Project will be about \$14.3 million, with about \$9.5 million being the cost of the solar component and \$4.8 million being the cost of the battery storage system, which includes its share of the estimated \$725,000 interconnection cost. The solar PPA will be 9.9 cents per kWh of solar production plus a fixed battery storage capacity cost of \$498,500 per year. The effective levelized rate to customers, including the Project's financing-related benefits and operation of the solar array beyond the Project's lifetime of 25 years, is expected to be \$0.08 per kWh. Shields pf. (8/10/18) at 23.

20. It is possible that the battery storage system, in conjunction with other generation and storage resources in the area, would allow GMP to island a subset of Essex customers, thereby providing power during emergency and planned outages while effectively disconnecting these customers from the bulk grid. However, additional equipment and an advanced micro-grid control system would need to be installed to implement the islanding capabilities of this area. Steven W. Litkovitz, GESS ("Litkovitz") pf. at 6-7.

Discussion

GESS has not proposed any restrictions on the hours of construction for the Project. The Commission, as a matter of practice, restricts construction activities for Section 248 projects to

the hours between 7:00 A.M. and 7:00 P.M. Monday through Friday and between 8:00 A.M. and 5:00 P.M. on Saturdays, with no construction allowed on state or federal holidays or Sundays. I recommend that the Commission adopt these restrictions on the hours of construction for the Project consistent with past Commission practice to ensure that no undue adverse effect occurs with respect to sound. Accordingly, I recommend that the Commission's standard construction hours be included as a condition in any CPG issued for the Project.

Review of Project Under the Section 248 Criteria

Orderly Development of the Region

[30 V.S.A. § 248(b)(1)]

21. The Project will not unduly interfere with the orderly development of the region, with due consideration having been given to the recommendations of the municipal and regional planning commissions, the recommendations of the municipal legislative bodies, and the land conservation measures contained in the plan of any affected municipality. This finding is supported by findings 22 through 28, below.

22. The Project will not violate any land conservation measures contained in either the Essex Town Plan ("Town Plan") or the Chittenden County ECOS² Plan ("Regional Plan") and would further the goals of each plan to encourage the development of renewable energy sources. Veve pf. (8/10/18) at 13.

23. The Project is consistent with the development standards identified in the Town Plan because it will be located in an industrially zoned area of the Town. The Project property is not in an area specifically identified as scenic, nor is it in the viewshed of any identified scenic resource. River Road, a scenic resource identified in the Town Plan that travels along the Winooski River about 2,100' (0.37 mile) south of the Project, will have no visibility of the solar site due to topography and intervening vegetation. Other scenic resources referenced in the Town Plan, such as views from Saxon Hill Road or historic buildings and homesteads, are not within the viewshed of the Project and will not be affected. Veve pf. (8/10/18) at 13-14; exh. GESS-WV-7.

² ECOS stands for environment, community, opportunity, and sustainability.

24. The Town of Essex Planning Commission and Selectboard concluded that the Project is appropriately sited and consistent with the Town Plan. Veve pf. (8/10/18) at 14; exhs. GESS-WV-5 and 6.

25. The Project is consistent with and advances the general goals and policies of the Regional Plan because the Project's design avoids impacts to scenic and natural resources. The Project will also support the Regional Plan's goal of creating distributed renewable energy generation while being sensitive to potential aesthetic impacts. Veve pf. (8/10/18) at 14.

26. The Regional Plan recognizes the importance of addressing scenic and visual resources within the region, but it does not specify areas for conservation other than areas or regions that have been previously adopted for conservation by each of its member municipalities, leaving specific policies for those towns to decide. Veve pf. (8/10/18) at 14.

27. The Project will advance the energy policies of the Regional Plan, including the following: "Chittenden County has many non-fossil fuel based, renewable energy production sites owned by utilities, private parties, and municipalities. Reliable, cost-effective, and environmentally sustainable energy availability is critical to support the economy and natural resources of Chittenden County." Veve pf. (8/10/18) at 14.

28. The Chittenden County Regional Planning Commission concluded that the Project is consistent with the Regional Plan's energy goals, and that "the general location of this project meets the suitability policies" of the Regional Plan. Veve pf. (8/10/18) at 14-15; exh. GESS-WV-4.

Municipal Screening Requirements

[30 V.S.A. § 248(b)(1)(B)]

29. The Town of Essex has not adopted screening requirements for ground-mounted solar electric generation facilities pursuant to either 24 V.S.A. § 4414(15) or 24 V.S.A. § 2291(28) with which the Project would have to comply. Natalie Steen, GESS ("Steen") pf. at 6.

Need for Present and Future Demand for Service

[30 V.S.A. § 248(b)(2)]

30. The Project will meet the need for present and future demand for service which could not otherwise be provided in a more cost-effective manner through energy conservation

programs and measures and energy efficiency and load management measures, including but not limited to those developed pursuant to the provisions of subsection 209(d), section 218c, and subsection 218(b) of Title 30. This finding is supported by findings 31 through 39, below.

31. The Project will help address several requirements, including energy, capacity, and renewable energy, that are associated with meeting the demand for service to GMP's customers. As a load-serving entity in the ISO-NE electricity market, GMP is responsible for providing or purchasing sufficient energy to meet its customers' needs (on an hourly and real-time basis), along with its share of regional capacity requirements (through the ISO-NE Forward Capacity Market). Andrew Quint, GESS ("Quint") pf. at 11-12; exhs. GESS-AQ-2 and 3.

32. Energy and capacity are the two largest components of power supply costs for GMP, and uncertainty in future energy and capacity market prices are among the top sources of uncertainty in those power costs. Quint pf. at 11-12.

33. This Project will help address GMP's energy and capacity requirements. Quint pf. at 4.

34. The Project can also help GMP meet its Renewable Energy Standard ("RES") obligations. Quint pf. at 4.

35. GMP's load forecast indicates that energy efficiency and demand response programs will contribute to meeting its customers' projected power needs, but the magnitude of those needs cannot be completely satisfied with cost-effective energy efficiency and demand resources. Quint pf. at 13.

36. GMP's need for energy could be affordably met through either bilateral contracts or through purchases at the ISO-NE market. Daniel Potter, Department of Public Service ("Potter") pf. at 2.

37. GMP has not demonstrated that a contemporaneous analysis of least-cost alternatives was conducted prior to electing to move forward with the Project. However, the analysis provided to the Department in the discovery process demonstrates that the costs of the Project are roughly in the middle of a set of generic alternatives. Potter pf. at 2.

38. The Department agrees with GMP that a portfolio of resources, as opposed to the single least expensive resource, is an appropriate approach for GMP to take. Potter pf. at 2.

39. The Department and GMP entered into a Memorandum of Understanding (“GMP-DPS MOU”),³ which in part requires an explicit set of system-wide and project-specific analytical steps that will be conducted on a going-forward basis before GMP decides to undertake similar projects. Potter pf. at 2.

Discussion

The Department raised concerns about whether the Petitioner adequately demonstrated the need for the Project. In response to those concerns, GMP and the Department negotiated the GMP-DPS MOU, which is designed in part to address the concerns identified by the Department. The Department’s concerns regarding the Project’s ability to satisfy the need criterion have been addressed by the GMP-DPS MOU.

Based on the Department’s agreement that the MOU adequately addresses any concerns the Department had with this criterion, I recommend that the Commission find that the Project will meet a need for present and future demand for service which could not otherwise be provided in a more cost-effective manner as required by 30 V.S.A. § 248(b)(2).

Impact on System Stability and Reliability

[30 V.S.A. § 248(b)(3)]

40. The Project will not have an adverse effect on system stability and reliability. This finding is supported by findings 41 through 46, below.

41. The Project is designed to meet the applicable safety standards of the National Electrical Code, the National Electrical Safety Code, and utility interconnection standards for safe and reliable operation of solar electric plants. Veve pf. (8/10/18) at 17.

42. The Project will interconnect with GMP’s 33Y4 34.5 kV distribution circuit at Pole 110 via a new 1,500-foot line extension. The 33Y4 circuit in turn is connected to the GMP Sand Hill Road substation. Litkovitz pf. at 4; exh. GESS-SL-2.

43. GMP completed a System Impact Study (“SIS”) on July 24, 2018. Litkovitz pf. at 5; exh. GESS-SL-3.

44. The SIS resulted in the following findings and specifies the following upgrades:

³ The GMP-DPS MOU was admitted into the evidentiary record as exhibit GESS-KS-12. The MOU is described in more detail in section VI of this proposal for decision, below.

- Installation of underground conductor to a pad-mounted recloser and pad-mounted primary metering. The pad-mounted recloser shall be equipped with supervisory control and data acquisition. The Point of Interconnection will be approximately 1,500 feet into a previously proposed primary overhead line extension originating at Tag 81623 located off Sand Hill Road. This line extension is a requirement and responsibility of a project with an earlier position in the interconnection queue. If the earlier queued project does not move forward or the GMP Essex Solar/Storage Project wishes to proceed before the line extension is complete, the GMP Essex Solar/Storage Project will be responsible for the line extension originating at Tag 81623. The Point of Common Coupling is defined as the load side terminations of GMP's pad-mounted primary meter.
- Installation of flicker meters at the start of the overhead tap.
- Change settings for the 33Y4 circuit recloser at the Sand Hill Road Substation to allow full coordination with the pole-mounted recloser.
- Installation of a direct transfer trip scheme from the 33Y4 circuit recloser to the Project recloser.
- Installation of real time communications from the Project to GMP.

Litkovitz pf. at 5; exh. GESS-SL-3.

45. GESS will pay for the cost of the System Impact and Facilities Studies and to implement the required system upgrades and interconnection facilities. Litkovitz pf. at 9.

46. Provided the recommendations in the System Impact Study and Facilities Study are implemented, the Project should have no adverse impact on the safe, reliable, and stable operation of the GMP electric system. Litkovitz pf. at 7.

Discussion

I recommend that the Commission include the following as a condition of approval of the Project: prior to operation of the Project, GESS shall enter into an interconnection agreement with GMP that conforms to the requirements of Commission Rule 5.500. GESS shall be responsible for the cost of GMP's electrical system upgrades reasonably necessary to implement interconnection for the Project and such other costs appropriately submitted to GESS in accordance with Commission Rule 5.500.

Economic Benefit to the State

[30 V.S.A. § 248(b)(4)]

47. The Project will result in an economic benefit to the State and its residents. This finding is supported by findings 48 through 60, below.

48. The Project will provide a range of economic benefits for the State and its residents, including employment opportunities, municipal and state tax payments, and the procurement of low-cost solar power for ratepayers. Veve pf. (8/10/18) at 15-16.

49. During the Project's development and construction phases, the Petitioner will have retained (directly or through contractors) dozens of individuals to work on engineering, environmental, aesthetic, legal/permitting, and construction-related tasks. During the operations phase, several individuals employed by the Petitioner and its Vermont contractors will be involved in operating, maintaining, and monitoring the Project. Veve pf. (8/10/18) at 15-16.

50. GESS will also pay local and state property taxes for the Project that are expected to be approximately \$18,000 per year of state education tax, and roughly \$22,000 per year of municipal property tax. Veve pf. (8/10/18) at 16.

51. In the event GMP obtains net taxable income from the Project, state income tax payments will also occur. Quint pf. at 37.

52. The payment streams (e.g., state and local tax payments) and economic activity from the Project would not otherwise occur if GMP were to purchase alternative power from out-of-state sources. Quint pf. at 23.

53. Over the Project's lifetime, the directly quantifiable value of its output (based on market prices and projected avoided costs, along with the output profile of solar power) is projected to exceed its cost. This indicates that over time, GMP's net cost of serving customers is likely to be lower with the Project than without it. Quint pf. at 23.

54. As a low-cost source of new distributed renewable power, the Project can help GMP meet the requirements of Vermont's new RES program in a low-cost manner. Quint pf. at 23.

55. The investment tax credit ("ITC") associated with the Project will provide value in several ways. First, GMP's tax equity partner will pay GMP a developer fee that will be passed on to customers. Second, GMP will receive value in the form of so-called "Day 1 Gain," based on the accounting treatment of the ITC, which will also be passed on to customers. Finally,

GMP's tax equity partner will contribute a significant amount of capital to the Project, which will reduce the amount of the Project's cost placed into GMP's rate base. Shields pf. (8/10/18) at 5-7.

56. The Project's battery component is expected to reduce capacity and Regional Network Service costs for GMP's customers. These costs are calculated by ISO-NE based on monthly and annual peak loads. If the battery is discharged during these times it can shave the peaks and reduce costs for customers. Shields pf. (8/10/18) at 7.

57. The Project's battery can also provide value through frequency regulation, a service whereby ISO-NE dispatches the battery at short intervals to help balance generation and loads. Shields pf. (8/10/18) at 7.

58. Another potential source of revenue is energy arbitrage – charging the battery when energy market prices are low and discharging it when prices are high. Shields pf. (8/10/18) at 8.

59. The Project raises economic concerns because of: (1) the long payback period for the Project, estimated to be approximately 15 years before cumulative benefits will exceed cumulative costs; (2) operational risks associated with accurately predicting and discharging the battery during both system and Vermont peaks; and (3) risks associated with changes in forecasted market prices and/or the structure of markets that the Project relies on to achieve value. Potter pf. at 3.

60. GMP and the Department entered into the GMP-DPS MOU, which in part requires GMP to share in the Project's anticipated performance and market risks. These provisions adequately address the economic concerns raised by the Project. Potter pf. at 3; Shields supp. pf. (11/30/18) at 2-3.

Discussion

The Department raised concerns that the risks identified above might call into question the Project's ability to provide an economic benefit to the State and its residents. In response to those concerns, GMP and the Department negotiated the GMP-DPS MOU, which is designed in part to address the concerns identified by the Department. The Department's concerns regarding the Project's ability to satisfy the economic benefit criterion have been addressed by the GMP-DPS MOU.

Based on the representations of the Petitioner's witnesses regarding the economic activity that will be generated by the Project and the Department's agreement that the MOU adequately addresses any concerns regarding potential economic risks posed by the Project, I recommend that the Commission find that the Project will result in an economic benefit to the State and its residents.

**Aesthetics, Historic Sites, Air and Water Purity, the Natural Environment,
the Use of Natural Resources, and Public Health and Safety**

[30 V.S.A. § 248(b)(5)]

61. Subject to the conditions described below, the Project will not have an undue adverse effect on aesthetics, historic sites, air and water purity, the natural environment, the use of natural resources, or public health and safety, with due consideration having been given to the criteria specified in 10 V.S.A. §§ 1424a(d) and 6086(a)(1) through (8) and (9)(K), and greenhouse gas impacts. This finding is supported by findings 62 through 129, below, which give due consideration to the criteria specified in 10 V.S.A. §§ 1424a(d) and 6086(a)(1) through (8) and (9)(K).

Outstanding Resource Waters

[10 V.S.A. § 1424a; 30 V.S.A. § 248(b)(8)]

62. The Project will not affect any outstanding resource waters as defined by 10 V.S.A. § 1424a(d) because there are no outstanding resource waters in the Project area. Evan Fitzgerald, GESS ("Fitzgerald") pf. at 4; exh. GESS-EF-2.

Air Pollution and Greenhouse Gas Impacts

[30 V.S.A. § 248(b)(5); 10 V.S.A. § 6086(a)(1)]

63. The Project will not result in undue air pollution or greenhouse gas emissions. This finding is supported by findings 64 through 69, below.

64. Construction phase air pollutants will be limited to emissions from general on-site excavation and installation equipment and tractor trailer deliveries, similar to other construction projects of this nature. Ian Jewkes, GESS ("Jewkes") pf. at 2.

65. If dust becomes a factor on-site during construction, it will be mitigated with the use of water trucks. Jewkes pf. at 2.

66. Operation of the Project produces no air pollutants, other than from occasional maintenance activities that involve vehicles or equipment that burns a fossil fuel. Jewkes pf. at 2.

67. The Project's solar panels will annually produce an estimated 8,000 megawatt hours of electricity without creating any greenhouse gas emissions. Veve pf. (8/10/18) at 3.

68. The Project will help reduce the need for fossil fuel use by offsetting GMP's need for energy during peak times, including energy from non-renewable generating resources. Veve pf. (8/10/18) at 18.

69. GESS and ANR entered into a Memorandum of Understanding ("GESS-ANR MOU") that in part addresses greenhouse gas impacts. Exh. GESS-WV-11.⁴

Discussion

In the GESS-ANR MOU, the stipulating parties identify conditions to be included in the CPG for the Project that require the Petitioner to provide ANR with post-construction and annual information to assist ANR with compiling and analyzing greenhouse gas impacts. The stipulating parties agree that the conditions are necessary to avoid undue adverse effects on air purity; therefore, I recommend that the Commission include the conditions in the CPG.

Water Pollution

[10 V.S.A. § 6086(a)(1)]

70. Subject to conditions, the Project will not result in undue water pollution. This finding is supported by finding 71, below.

71. In the GESS-ANR MOU, GESS has agreed to certain conditions to prevent undue water pollution. Exh. GESS-WV-11.

Discussion

In the GESS-ANR MOU, the stipulating parties identify conditions to be included in the CPG for the Project that address potential impacts to water resources. The stipulating parties agree that the conditions are necessary to avoid undue adverse effects on water purity; therefore, I recommend that the Commission include the conditions in the CPG.

⁴ The GESS-ANR MOU was admitted into the evidentiary record as exhibit GESS-WV-11. The MOU is described in more detail in section VI of this proposal for decision, below.

Headwaters

[10 V.S.A. § 6086(a)(1)(A)]

72. The Project site is located in a headwaters area because it is located in a watershed of less than 20 square miles. However, the Project site is not characterized by other features that define headwaters as set forth in 10 V.S.A. § 6086(a)(1)(A). It is not characterized by steep slopes and shallow soils, is not above 1,500 feet in elevation, is not in a watershed of a public water supply as designated by ANR, and is not in an area that supplies significant amounts of recharge water to aquifers. Fitzgerald pf. at 4.

73. There are no perennial surface waters on the Project site, and the Project will neither withdraw from nor contribute to groundwater resources. It is isolated from ground and surface waters and will therefore meet applicable health and water resources regulations. Fitzgerald pf. at 4-5; exh. GESS-EF-2.

74. The Project will have no effect on the quality of ground or surface water related to headwaters. Finding 73, above.

Waste Disposal

[10 V.S.A. § 6086(a)(1)(B)]

75. The operation of the Project will not generate solid wastes, will not involve the injection of waste materials into groundwater or wells, and will not generate sanitary waste. Jewkes pf. at 5.

76. The Project transformers, for both the solar arrays and battery system, will utilize mineral oil for cooling. The Project will include construction of secondary oil containment designed to hold up to 110% of the transformers' oil capacity plus five inches of freeboard. Jewkes pf. at 5; exh. GESS-WV-14.

77. Minimal tree clearing is required for the Project. All resulting stumps will be left in place to aid soil stabilization. No stump dump is proposed as part of the Project. Jewkes pf. at 5.

Water Conservation

[10 V.S.A. §§ 6086(a)(1)(C)]

78. The Project will not have an undue adverse effect on water conservation because the Project will not involve the use of water. Jewkes pf. at 8.

Floodways

[10 V.S.A. § 6086(a)(1)(D)]

79. The Project is not located within a floodway or floodway fringe and therefore will not restrict or divert the flow of flood waters, significantly increase the peak discharge of a river or stream within or downstream from the Project, or endanger the health, safety, or welfare of the public or of riparian owners during flooding. The Project site is located in FEMA Flood Zone “X,” which is defined as outside the 500-year flood plain. Jewkes pf. at 8-9; exhs. GESS-WV-4 and 14.

Streams

[10 V.S.A. § 6086(a)(1)(E)]

80. The Project will not have an undue adverse effect on streams. This finding is supported by findings 81 and 82, below.

81. The closest mapped perennial streams to the Project are approximately 150 feet east of the proposed array and approximately 50 feet south of the proposed interconnection point. An intermittent stream channel was observed along the northeastern portion of the proposed array. Fitzgerald pf. at 6.

82. The proposed interconnection point is at an existing utility pole located on a high point of land between an intermittent stream channel to the west and a perennial stream channel to the east. The managed utility corridor associated with this pole includes portions of the perennial stream buffer. The proposed interconnection route will be underground and will require some vegetative management along the intermittent channel. The installation of underground power will not require ongoing maintenance clearing, which will allow the intermittent stream buffer to naturally revegetate. No clearing is proposed within the buffer of the perennial stream. Fitzgerald pf. at 6; exh. GESS-EF-2.

Shorelines

[10 V.S.A. § 6086(a)(1)(F)]

83. The Project is not located on a shoreline. Fitzgerald pf. at 6; exh. GESS-EF-2.

84. The closest shoreline is at the Winooski River, approximately 2,000' away.
Fitzgerald pf. at 6; exh. GESS-EF-2.

Wetlands

[10 V.S.A. § 6086(a)(1)(G)]

85. The Project will not have an undue adverse effect on wetlands. This finding is supported by findings 86 through 88, below.

86. Two Class II wetlands are located near the proposed array location. In addition, one Class III wetland is located near the proposed array location and another near the proposed interconnection point. Fitzgerald pf. at 7; exh. GESS-EF-2.

87. All proposed clearing and site activities will be outside of the 50-foot buffers of the wetlands. Fitzgerald pf. at 7; exh. GESS-EF-2.

88. In the GESS-ANR MOU, GESS has agreed to certain conditions to prevent undue impacts to wetlands. Exh. GESS-WV-11.

Discussion

In the GESS-ANR MOU, the stipulating parties identify conditions to be included in the CPG for the Project that address potential impacts to wetlands. The stipulating parties agree that the conditions are necessary to avoid undue adverse effects on wetlands; therefore, I recommend that the Commission include the conditions in the CPG.

Sufficiency of Water and Burden on Existing Water Supply

[10 V.S.A. §§ 6086(a)(2) and (3)]

89. There is sufficient water available for the reasonably foreseeable needs of the Project. The Project will not require the use of water during the construction phase (unless required for dust control) or during the operational phase (except for possible occasional cleaning of the solar panels). Any water that is required will be brought to the site on small maintenance vehicles. Jewkes pf. at 8.

90. The Project will not cause an unreasonable burden on an existing water supply because water usage will be minimal and any water that may be required will be brought to the site on small maintenance vehicles. Jewkes pf. at 8.

Soil Erosion

[10 V.S.A. § 6086(a)(4)]

91. The Project will not cause unreasonable soil erosion or reduce the capacity of the land to hold water so that a dangerous or unhealthy condition may result. This finding is supported by findings 92 through 102, below.

92. The Project's proposed earth disturbance triggers the need for a Construction General Permit for Stormwater Runoff from Construction Sites. The soil disturbances will be from site preparation and installation of new infrastructure such as clearing and stump removal, the access road, project equipment pads and vaults, underground utility lines, the project perimeter fence, solar module racking supports, installation of stormwater infrastructure, and project staging. Jewkes pf. at 5-6; exh. GESS-WV-14.

93. Based on the Vermont Department of Environmental Conservation's risk evaluation scoring sheet for stormwater construction permitting, the Project site is classified as Moderate Risk due to the amount of disturbance and the type of soil on site. Therefore, the Project will fit within the Construction General Permit for Moderate Risk Projects and will be constructed in accordance with the requirements of that permit. The Petitioner will apply for the permit with the associated Notice of Intent Application. Jewkes pf. at 6.

94. The Project will follow all the guidance and standards within the Vermont Standards & Specifications for Erosion Prevention and Sediment Control, August 2006 ("EPSC Handbook"). Appropriate erosion control measures will be implemented following the EPSC Handbook, and the Petitioner will re-vegetate all disturbed areas created during construction. Jewkes pf. at 6, 10; exh. GESS-IJ-3.

95. The Petitioner has prepared an EPSC Plan for the Project, to be included in the stormwater permit application. Jewkes pf. at 6; exhs. GESS-IJ-3, GESS-WV-14.

96. Measures used on the Project will include: silt fencing, silt socks, reinforced silt fencing, construction limit barrier fencing, stabilized construction entrances at all access points to the site, erosion control matting, seeding and mulching specifications, and separate

containment and stabilization of any soil stockpiling. Implementation of standard EPSC measures will comply with applicable DEC stormwater requirements. Jewkes pf. at 6-7; exhs. GESS-IJ-3, GESS-WV-14.

97. Construction of the Project will result in approximately 1.2 acres of new impervious surface from the creation of access roads and equipment pads. Because the new impervious area will be more than one acre, the Project will need an operational phase stormwater management permit. Jewkes pf. at 7; exh. GESS-WV-14.

98. The Petitioner will apply for its operational phase permit pursuant to the 2017 amended Vermont Stormwater Management Manual rules. Tier 1 practices will be used, including infiltration basins, dry swales, simple disconnection, and disconnection to filter strip or vegetative buffer. These practices will be designed with additional storage capacity and controlled outlet structures to also meet Channel Protection and Overbank Flood Protection requirements. Pre-treatment requirements will be met using road side pre-treatment swales (grass channels) and sediment forebays of the stormwater treatment practices. Jewkes pf. at 7.

99. The site will also be subject to the Post-Construction Soil Depth and Quality treatment standard to restore the post-development site to that of naturally occurring, undisturbed soil. Jewkes pf. at 7-8.

100. GESS has developed a Vegetative Management Protocol to protect the steep banks located on the Project site. Jewkes pf. at 10-11; exh. GESS-WV-14.

101. GESS and the Vermont Natural Resources Board (“NRB”) entered into a Memorandum of Understanding (“GESS-NRB MOU”). Exh. GESS-WV-12.⁵

102. In the GESS-ANR MOU, GESS has agreed to certain conditions addressing soil impacts. Exh. GESS-WV-11.

Discussion

In the GESS-ANR MOU and the GESS-NRB MOU, the stipulating parties identify conditions to be included in the CPG for the Project that address potential impacts to soils. The stipulating parties agree that the conditions are necessary to avoid undue soil erosion; therefore, I recommend that the Commission include the conditions in the CPG.

⁵ The GESS-NRB MOU was admitted into the evidentiary record as exhibit GESS-WV-12. The MOU is described in more detail in section VI of this proposal for decision, below.

Transportation

[10 V.S.A. § 6086(a)(5)]

103. The Project will not cause unreasonable congestion or unsafe conditions with respect to transportation systems. This finding is supported by findings 104 to 106, below.

104. Equipment will be transported to the site via River Road. The solar panels and racking system will be shipped on pallets, typically delivered by standard tractor-trailer trucks. Approximately 60 truck trips will be required to deliver the solar panels, racking, inverters, and batteries over an approximately 8-week period. The transformers and battery equipment will be delivered assembled on standard-width flatbed tractor trailers. Other Project equipment, e.g., wire, cable, conduit, and construction materials, will also be transported on standard-width trucks. Veve pf. (8/10/18) at 8.

105. Following initial delivery, construction-related traffic will be limited to more infrequent deliveries for smaller, necessary electrical supplies and workers entering and exiting the site. No oversize or overweight loads requiring special permits are expected to be necessary. If any Vermont Agency of Transportation permit is ultimately needed, it will be obtained prior to construction. Veve pf. (8/10/18) at 19.

106. During Project operation, entry to the Project will be limited to maintenance and repairs, and therefore there will be only occasional Project-related traffic that will not cause unreasonable traffic or unsafe conditions. Veve pf. (8/10/18) at 19.

Educational Services

[10 V.S.A. § 6086(a)(6)]

107. The Project will not create any full-time permanent jobs, so no additional children will enter the school system. Thus, the town will not experience any new burdens to its school system. Veve pf. (8/10/18) at 19-20.

108. The state education funding system will be benefited by the Project due to new estimated state education taxes of \$18,000 per year. Veve pf. (8/10/18) at 19-20.

Municipal Services

[10 V.S.A. § 6086(a)(7)]

109. The Project will not cause an unreasonable burden on the Town of Essex to provide municipal services. The Project will not require any municipal water or sewer, nor any

unique fire, police, or rescue services, and will be installed to conform to all applicable electrical and fire codes. Veve pf. (8/10/18) at 20.

Aesthetics, Historic Sites, and Rare and Irreplaceable Natural Areas

[10 V.S.A. § 6086(a)(8)]

110. The Project will not have an undue adverse impact on aesthetics or on the scenic or natural beauty of the area, nor will the Project have an undue adverse effect on historic sites or rare and irreplaceable natural areas. This finding is supported by findings 111 through 121, below.

Aesthetics

111. The Project will not result in an adverse impact to aesthetics or the scenic or natural beauty of the area. This finding is supported by findings 112 to 116, below.

112. The size and scale of the Project are compatible with its surroundings because it will be located within the disturbed portion of a former sand extraction facility. Natalie Steen, GESS (“Steen”) pf. at 5.

113. The colors and materials used for the Project are consistent with materials used in many similar solar projects approved by the Commission, do not stand out or make the panels or structures highly visible (i.e., the darker color of the panels and metal finish of the structures blend in with the background), and are contextually appropriate for the conditions of a former sand pit. Steen pf. at 5; exh. GESS-NS-2.

114. The Project will not result in the permanent loss of any meaningful open space because the site is not an open space accessible to the public nor is there any designated or official public use of or access to the property. Steen pf. at 5.

115. The Project will have no off-site visibility. Its position within the landscape hides it from all accessible vantage points. Steen pf. at 5; exh. GESS-NS-2.

116. The Town Plan has specifically identified this area as being compatible with industrial-type development. Steen pf. at 5; exh. GESS-NS-2.

Historic Sites

117. The Project will not have an undue adverse effect on historic properties. This finding is supported by findings 118 through 120, below.

118. The Project will have no off-site visibility and therefore will have no impact on off-site historic resources. Veve pf. (8/10/18) at 21; Steen pf. at 5; exh. GESS-WV-9.

119. With respect to on-site archaeological resources, the Vermont Division for Historic Preservation (“DHP”) conducted a review of the Project. Much of the site is highly disturbed from prior sand pit operations. DHP conducted Phase I testing of a small intact area within the selective vegetative management zone and provided a letter indicating that, based on the work completed, the Project will have no effect on archaeological resources. Veve pf. (8/10/18) at 20; exh. GESS-WV-9.

120. DHP filed a letter with the Commission, dated October 16, 2018, in which it concluded that the Project will have “No Effect” on any historic sites (listed or eligible). Exh. GESS-WV-16.

Rare and Irreplaceable Natural Areas

121. The Project will not have an undue adverse effect on rare and irreplaceable natural areas because there are no rare and irreplaceable natural areas within the Project area. Fitzgerald pf. at 8; exh. GESS-EF-3.

Necessary Wildlife Habitat and Endangered Species

[10 V.S.A. § 6086(a)(8)(A)]

122. The Project will not have an undue adverse effect on any endangered species or critical wildlife habitat. This finding is supported by findings 123 through 127, below.

123. There are no deer winter, black bear, or grassland bird habitats in the Project area. Moreover, the Project will result in clearing of less than 1% of the available forestland within 1 square mile of the Project. Therefore, it will not require acoustic bat surveys or time-of-year restrictions on vegetative management to protect northern long-eared bats under Vermont Fish and Wildlife Department standards. Fitzgerald pf. at 8; exh. GESS-EF-3.

124. An inventory of rare, threatened, and endangered (“RTE”) plant species was completed in July of 2018. Several communities of state-threatened (i.e., S2) plant species were documented on the Project site. Fitzgerald pf. at 9; exh. GESS-EF-3.

125. The Project has been designed to avoid these state-threatened plant species communities. During construction, each area with S2 species will be marked off with reinforced silt fencing and construction limit barrier tape. Permanent wooden fencing will be installed

around each community with signage specifying mowing years (e.g., once every 5 years). Fitzgerald pf. at 9; exhs. GESS-EF-3, GESS-WV-14, GESS-WV-15.

126. The Project will not have an adverse impact on northern long-eared bats or Indiana bats. Fitzgerald pf. at 9; exh. GESS-EF-3.

127. In the GESS-ANR MOU, GESS has agreed to certain conditions addressing impacts to the state-threatened plant species communities. Exh. GESS-WV-11.

Discussion

In the GESS-ANR MOU, the stipulating parties identify conditions to be included in the CPG for the Project that address potential impacts to RTE plants. The stipulating parties agree that the conditions are necessary to avoid undue impacts to these plants; therefore, I recommend that the Commission include the conditions in the CPG.

Development Affecting Public Investments

[10 V.S.A. § 6086(a)(9)(K)]

128. The Project will not unnecessarily or unreasonably endanger any public or quasi-public investment in a facility, service, or lands, or materially jeopardize or interfere with the function, efficiency, or safety of, or the public's use or enjoyment of, or access to any such facility, service, or lands. This finding is supported by finding 129, below.

129. The nearest public roads are River Road, about 2,100 feet away, and Sand Hill Road, about 2,300 feet away. The Project will not impact or create any adverse burdens on these public investments given the limited and temporary use of roads during construction, and the very limited use during operation (including use of an existing utility right-of-way). Veve pf. (8/10/18) at 21.

Public Health and Safety

[30 V.S.A. § 248(b)(5)]

130. The Project will not have any undue adverse effects on the health, safety, and welfare of the public. This finding is supported by findings 131 through 137, below.

131. The Project is designed to meet the applicable safety standards of the National Electrical Code and National Electrical Safety Code and utility interconnection standards for safe and reliable operation of solar electric plants. Veve pf. (8/10/18) at 17.

132. All switchgear equipment will be inside a locked UL-listed, code-approved electrical enclosure. Veve pf. (8/10/18) at 17.

133. The electrical lines that connect the inverters to the transformers and the transformers to the GMP distribution system will be located inside underground conduit. In addition, the electricity will be transmitted from the Project to the existing GMP distribution system at a voltage and in a manner that does not pose undue risks related to electromagnetic fields. Veve pf. (8/10/18) at 17.

134. A perimeter fence will enclose the entire solar plant to deter vandals and trespassers. The fence will be posted with appropriate electrical warning signs. Veve pf. (8/10/18) at 18.

135. The solar panels are designed to absorb rather than reflect the sun's energy, which will prevent undue glare. Veve pf. (8/10/18) at 18.

136. The transformers will be installed with secondary containment structures to protect the surrounding land and water resources in the event of fluid leaks. Additionally, the transformer oil will be mineral oil or biodegradable oil. Veve pf. (8/10/18) at 18.

137. The inverters will comply with applicable codes and standards with respect to electrical interference, including UL1741 (Standards for Inverters, Converters, Controllers and Interconnection System Equipment for Use with Distributed Energy Resources), and will be certified as FCC Class A devices. Jewkes pf. (8/10/18) at 3.

Primary Agricultural Soils

[30 V.S.A. § 248(b)(5)]

138. The Project will not have any undue adverse effects on primary agricultural soils as defined in 10 V.S.A. § 6001. This finding is supported by findings 139 and 140, below.

139. An 11.15-acre portion of the Project area is mapped as an Adams Windsor Loamy Sand (0% to 5% slopes) soils by the Natural Resources Conservation Service of the U.S. Department of Agriculture. This soil type is designated as a "Prime" agricultural soil. However, the topsoil was removed during the sand extraction activities that ended in the 1980s. The sand pit area has been revegetated but is no longer considered a "Prime" agricultural soil. Jewkes pf. at 11–12; exh. GESS-WV-14.

140. GESS and the Vermont Agency of Agriculture, Food, and Markets (“AAFM”) entered into a Memorandum of Understanding (“GESS-AAFM MOU”)⁶ in which they agreed that the Project, as described in the plans and specifications submitted with the Petition, will not have an undue adverse effect on primary agricultural soils under 30 V.S.A. § 248(b)(5). Veve supp. pf. (11/30/18) at 3; exh. GESS-WV-13.

Consistency With Company’s Least Cost Integrated Plan

[30 V.S.A. § 248(b)(6)]

141. The Project is consistent with the principles for resource selection expressed in GMP’s approved least-cost integrated plan (“IRP”). This finding is supported by findings 142 and 143, below.

142. As an in-state, GMP-owned solar project, the Project comports with several of the themes from GMP’s approved 2014 IRP and will help GMP move toward its preferred supply portfolio. Quint pf. at 4-5.

143. As a relatively low-cost, distributed renewable energy project, the Project addresses some of the portfolio needs identified in GMP’s 2014 IRP (i.e., additional low carbon and renewable sources). The Project also supports some of the IRP’s broader thematic goals such as diversity of supply, increased reliance on distributed generation, low emissions, and more GMP-owned generation. Quint pf. at 39.

Compliance with Twenty-Year Electric Plan

[30 V.S.A. § 248(b)(7)]

144. The Project is consistent with the Vermont Electric Plan approved by the Department under 30 V.S.A. § 202(f).

145. The Department has determined pursuant to 30 V.S.A. § 202(f) that the Project is consistent with the Vermont Electric Plan. Determination Under 30 V.S.A. § 202(f) signed by Edward McNamara, dated December 5, 2018; Potter pf. at 5-6.

⁶ The GESS-AAFM MOU was admitted into the evidentiary record as exhibit GESS-WV-13. The MOU is described in more detail in section VI of this proposal for decision, below.

Waste-to-Energy Facility
[30 V.S.A. §248(b)(9)]

146. The Project does not involve a waste-to-energy facility; therefore, this criterion is not applicable.

Existing or Planned Transmission Facilities
[30 V.S.A. § 248(b)(10)]

147. The Project can be served economically by existing or planned transmission facilities without undue adverse effects on Vermont utilities or customers. This finding is supported by findings 148 through 150, below.

148. The Project can be served by existing transmission facilities without undue adverse effect on Vermont utilities or customers provided the recommendations in the System Impact and Facilities Studies are addressed, implemented, and paid for by GESS. Litkovitz pf. at 8.

149. The Project is not in an identified capacity constrained area. Litkovitz pf. at 8.

150. GESS will pay for the cost of the System Impact and Facilities Studies and to implement required system upgrades and interconnection facilities. Litkovitz pf. at 9.

Woody Biomass Facilities
[30 V.S.A. § 248(b)(11)]

151. The Project will not produce electric energy using woody biomass; therefore, this criterion is not applicable.

Minimum Setback Requirements
[30 V.S.A. § 248(s)]

152. The Project is approximately 1,165' from the property boundary at River Road and 1,694' from the property boundary at Sand Hill Road. Jewkes pf. at 12; exh. GESS-WV-14.

153. GESS has entered into agreements with the Town of Essex and the sole owner of the land to the north of the Project site, agreeing to a reduced setback on the northern property line of 10 feet rather than the 50 feet otherwise required by 30 V.S.A. § 248(s). Veve supp. pf. (11/30/18) at 2; exh. GESS-WV-10.

154. The Project maintains a minimum 50' buffer from all other bordering property boundaries and 100' or more from the travelled portion of all town and state highways. Jewkes pf. (8/10/18) at 12; exh. GESS-WV-14.

Discussion

30 V.S.A. § 248(s) requires that the Project be set back at least 100 feet from any state or municipal highway and at least 50 feet from any property boundary that is not a state or municipal highway. With the exception of the Project's setback from the northern property boundary, the setbacks proposed for the Project meet these minimum requirements. However, 30 V.S.A. § 248(s)(3)(B) allows the Commission to approve agreements for smaller setbacks among a project applicant, the legislative body of the host municipality, and each owner of property adjoining the smaller setback.

In this case, the Project complies with the statutorily required setbacks for all but the Project's northern boundary, and the Petitioner has entered into agreements with the Town of Essex and the owner of the property to the north of the Project site allowing for a reduced setback of 10 feet from that boundary.⁷ Given the discretion afforded the Commission under Section 248(s), I recommend that the Commission approve the setback agreements and find that the Project therefore complies with the setback requirements of 30 V.S.A. § 248(s).

V. DECOMMISSIONING COST ESTIMATE AND LETTER OF CREDIT

155. GESS has prepared and submitted a decommissioning plan for the Project. Shields pf. (8/10/18) at 31; exh. GESS-KS-6.

156. At the time the Project is decommissioned, the solar panels, support structures, batteries and related components, underground electrical wiring, inverters, transformers, enclosures, and any other on-site equipment will be removed from the site and handled in accordance with applicable solid waste regulations. The majority of the dismantled components will be sent to a recycler. Any soil stockpiles will be redistributed and the site soils will be tilled and seeded. This will effectively restore the site to pre-development conditions. Shields pf. (8/10/18) at 32.

⁷ The agreements were admitted into the evidentiary record as exhibit GESS-WV-10.

157. GESS has provided a form irrevocable standby letter of credit (“LOC”) that includes an automatic renewal provision (“evergreen clause”), consistent with past Commission decisions regarding solar projects. Shields pf. (8/10/18) at 32; exh. GESS-KS-7.

Discussion

Commission Rule 5.900 establishes standard requirements for the decommissioning of electric generation, electric transmission, and natural gas facilities. Rule 5.904(B) requires that non-utility-owned generation facilities greater than 500 kW in capacity be removed once they are no longer in service and the site be restored, to the greatest extent practicable, to the condition it was in before installation of the facility. Commission Rule 5.904(B)(2) also requires that requests to construct these facilities include a draft irrevocable standby letter of credit in an amount sufficient to fund the estimated decommissioning and site restoration costs.

GESS has submitted a cost estimate and plan for decommissioning the Project and estimates that it will cost \$380,000 to decommission the Project. GESS states that it will provide a detailed updated cost estimate at the time of actual decommissioning based on actual cost quotes.

GESS has also submitted a draft irrevocable standby letter of credit that names the Commission as the sole beneficiary, includes an auto-extension provision or “evergreen clause,” and is bankruptcy remote. The draft LOC is consistent with the requirements imposed by the Commission in the past.

However, GESS states that the funding mechanism will be put in place at the time construction commences only “[i]n the event that the Commission determines that a funding mechanism is necessary.”⁸ GESS also asks that the Commission “reserve the opportunity for GESS to petition to remove the letter of credit requirement once GESS becomes wholly owned by GMP.”⁹

I recommend that the Commission require GESS to file the executed LOC, from an A-rated financial institution, with the Commission prior to the commencement of site preparation or construction because such a requirement is consistent with the provisions of Commission Rule 5.904(2). With respect to GESS’s request regarding removal of the LOC requirement in the

⁸ See Shields pf. (8/10/18) at 32.

⁹ *Id.*

future, the Commission need not take any action. The LOC requirement is imposed on non-utility projects by Commission Rule 5.904(B). If, in the future, GESS becomes wholly owned by GMP, it may seek a waiver of the requirement for good cause shown pursuant to Commission Rule 1.200.

GESS's cost estimate and plan for decommissioning, and the draft letter of credit and drawing certificate submitted with the cost estimate, are consistent with the requirements of Commission Rule 5.904(B).¹⁰ Therefore, I recommend that the Commission include in the CPG for the Project conditions requiring compliance with the terms and conditions of the proposed decommissioning plan and relevant provisions of Commission Rule 5.904(B).

VI. MEMORANDA OF UNDERSTANDING

158. In addition to the setback agreements discussed above, GESS entered into four additional Memoranda of Understanding; one with ANR, one with NRB, one with AAFM, and one with the Department. *See* exhs. GESS-WV-11, 12, and 13, and exh. GESS-KS-12.

159. The GESS-ANR MOU contains conditions regarding stormwater and spill prevention, wetlands, post-construction reporting, fencing, RTE plants, and vegetation management. *Veve* supp. pf. (11/30/18) at 2; exh. GESS-WV-11.

160. The GESS-NRB MOU contains conditions regarding reclamation of the former sand pit operation located on the Project site. *Veve* supp. pf. (11/30/18) at 2-3; exh. GESS-WV-12.

161. The GESS-AAFM MOU contains agreements regarding the lack of Project impacts to primary agricultural soils. *Veve* supp. pf. (11/30/18) at 3; exh. GESS-WV-13.

162. The GMP-DPS MOU includes provisions to be applied prospectively regarding GMP's selection of future battery storage projects. For projects larger than 1 MW, GMP will conduct a system-wide analysis to identify locations where storage would provide distribution system benefits and facilitation of integration of distributed energy resources. GMP will also conduct an individual analysis of each proposed project's value streams, expected costs, and alternatives. It is presumed that GMP will conduct competitive procurements for each project.

¹⁰ Provided the executed LOC is from an A-rated financial institution.

As an alternative, GMP can conduct periodic procurement solicitations for specific system needs related to these types of projects. Shields supp. pf. (11/30/18) at 2-3; exh. GESS-KS-12 § 1(c).

163. The GMP-DPS MOU also includes provisions designed to ensure that customers receive the benefits of the Project batteries' projected financial and operational performance. Shields supp. pf. (11/30/18) at 2-3; exh. GESS-KS-12 §§ 2, 3.

164. GMP has calculated a projected 10-year net present value ("NPV") for the Project batteries. At years 5 and 10 of the Project's life, GMP will calculate a 10-year NPV based on actual Project performance and market data to date. Shields supp. pf. (11/30/18) at 2-3; exh. GESS-KS-12 § 3.

165. If the actual calculated NPV varies from the projected NPV by +/-15% or more, a mechanism is triggered that will allocate the variance between GMP and its ratepayers. The sharing mechanism consists of two parts: a volume variance (based on GMP's battery asset management performance) and a market price variance (based on differences between projected and actual market pricing). If the actual NPV varies from the projected NPV by less than 15%, then GMP retains 100% of that variance. Shields supp. pf. (11/30/18) at 2-3; exh. GESS-KS-12 § 3.

166. At no point will the financial or operational assurance mechanisms in the GMP-DPS MOU provide for a positive benefit to GMP if the total variance is negative. Exh. GESS-KS-12 § 4.

167. The GMP-DPS MOU contains an Exhibit 1, which is a spreadsheet that will be used to perform the calculations described above. Exh. GESS-KS-12.

168. The GMP-DPS MOU also includes terms concerning the Project's nomenclature and potential for implementing islanding capabilities. Exh. GESS-KS-12.

Discussion

With one exception, I recommend that the Commission accept the MOUs described above with all of their provisions and conditions without material change or condition and require the signatories to comply with the terms and conditions of the MOUs as conditions of approval of the Project.

In the GMP-DPS MOU, the signatories agree that before GMP implements any islanding capability of the Project, it will petition the Commission under 30 V.S.A. § 248(j) for approval of

any modifications to the Project that are required to implement that capability. I recommend that the Commission not accept at this time the proposition that any such modifications will be appropriately considered under the expedited provisions of § 248(j). Rather, the Commission should only make that determination at the time such a petition is filed and after it has an opportunity to review whether the proposal qualifies for treatment under subsection (j) or whether it should be reviewed under Section 248 generally.

I raised this issue with the parties during the December 20, 2018, evidentiary hearing, and no party expressed an objection to the approach described above.

VII. CONCLUSION

Based upon the evidence in the record, I recommend that the Commission conclude that the Project, subject to the conditions set forth herein:

(a) will not unduly interfere with the orderly development of the region with due consideration having been given to the recommendations of the municipal and regional planning commissions, and the recommendations of the municipal legislative bodies;

(b) complies with the screening requirements of applicable municipal bylaws or ordinances and recommendations of a municipality applying such a bylaw or ordinance;

(c) will meet a need for present and future demand for service which could not otherwise be provided in a more cost-effective manner through energy conservation programs and measures and energy efficiency and load management measures, including but not limited to those developed pursuant to the provisions of subsection 209(d), section 218c, and subsection 218(b) of Title 30;

(d) will not adversely affect system stability and reliability;

(e) will result in an economic benefit to the state and its residents;

(f) will not have an undue adverse effect on aesthetics, historic sites, air and water purity, the natural environment, the use of natural resources, and public health and safety, with due consideration having been given to the criteria specified in 10 V.S.A. §§ 1424a(d) and 6086(a)(1) through (8) and (9)(K), and greenhouse gas impacts;

(g) is consistent with the principles for resource selection expressed in GMP's approved least cost integrated plan;

(h) is consistent with the *Vermont Twenty-Year Electric Plan*;

(i) does not involve a facility affecting or located on any segment of the waters of the State that has been designated as outstanding resource waters by the Secretary of Natural Resources;

(j) does not involve a waste-to-energy facility;

(k) can be served economically by existing or planned transmission facilities without undue adverse effect on Vermont utilities or customers;

(l) does not involve an in-state generation facility that produces electric energy using woody biomass; and

(m) is consistent with statutory minimum setback requirements.

This Proposal for Decision has not been circulated to the parties pursuant to 3 V.S.A. § 811 because it is not adverse to any party.

A handwritten signature in blue ink, appearing to read 'J. Cotter', is written over a horizontal line.

John J. Cotter, Esq.
Hearing Officer

VIII. ORDER

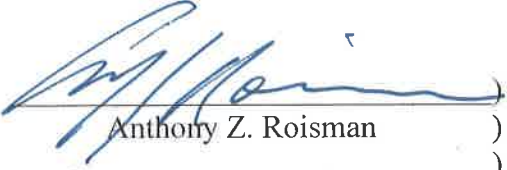
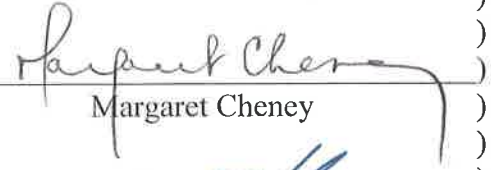

IT IS HEREBY ORDERED, ADJUDGED, AND DECREED by the Public Utility Commission (“Commission”) of the State of Vermont that:

1. The findings, conclusions, and recommendations of the Hearing Officer are hereby adopted. All findings proposed by parties that were not adopted in this Order are expressly rejected.

2. In accordance with the evidence and plans submitted in this proceeding, the 4.5 MW AC solar electric generation facility (the “Project”) proposed for construction and operation by GMP-Essex Solar/Storage LLC (the “Petitioner”) off River Road in Essex, Vermont, will promote the general good of the State of Vermont pursuant to 30 V.S.A. § 248, and a certificate of public good (“CPG”) to that effect shall be issued in this matter.

3. As a condition of this Order, the Petitioner shall comply with all terms and conditions set out in the CPG issued in conjunction with this Order.

Dated at Montpelier, Vermont, this 16th day of January, 2019

)	PUBLIC UTILITY
Anthony Z. Roisman)	
)		
)	COMMISSION
Margaret Cheney)	
)		
)	OF VERMONT
Sarah Hofmann)	
)		

OFFICE OF THE CLERK

Filed: January 16, 2019

Attest: 
Clerk of the Commission

Notice to Readers: This decision is subject to revision of technical errors. Readers are requested to notify the Clerk of the Commission (by e-mail, telephone, or in writing) of any apparent errors, in order that any necessary corrections may be made. (E-mail address: puc.clerk@vermont.gov)

Appeal of this decision to the Supreme Court of Vermont must be filed with the Clerk of the Commission within 30 days. Appeal will not stay the effect of this Order, absent further order by this Commission or appropriate action by the Supreme Court of Vermont. Motions for reconsideration or stay, if any, must be filed with the Clerk of the Commission within 28 days of the date of this decision and Order.

PUC Case No. 18-2902-PET - SERVICE LIST

Parties:

Gregory Boulbol
Vermont Natural Resources Board
10 Baldwin St.
Montpelier, VT 05633
greg.boulbol@vermont.gov

(for Vermont Natural Resources Board)

Daniel C. Burke, Esq.
Vermont Department of Public Service
112 State Street, Third Floor
Montpelier, VT 05620-2601
dan.burke@vermont.gov

(for Vermont Department of Public Service)

Donald J. Einhorn, Esq.
Vermont Agency of Natural Resources
1 National Life Drive, Davis 2
Montpelier, VT 05602-3901
donald.einhorn@vermont.gov

(for Vermont Agency of Natural Resources)

Andrew N. Raubvogel, Esq.
Dunkiel Saunders Elliott Raubvogel & Hand,
PLLC
91 College Street, P.O. Box 545
Burlington, VT 05402-0545
araubvogel@dunkielsaunders.com

(for GMP-Essex Solar/Storage LLC)

Alison Milbury Stone, Esq.
Vermont Attorney General's Office
109 State Street
Montpelier, VT 05609-1001
alison.stone@vermont.gov

(for Vermont Agency of Agriculture, Food and Markets)

Victoria M. Westgate, Esq.
Dunkiel Saunders Elliott Raubvogel & Hand,
PLLC
91 College Street, P.O. Box 545
Burlington, VT 05402-0545
vwestgate@dunkielsaunders.com

(for GMP-Essex Solar/Storage LLC)

Alexander Wing
Vermont Department of Public Service
112 State Street
Montpelier, VT 05620
alexander.wing@vermont.gov

(for Vermont Department of Public Service)

Non-Party Recipients:

Joe Flynn, Secretary
Vermont Agency of Transportation
AOT.ePSBNotifications@vermont.gov

(for Vermont
Agency of
Transportation)

c/o Mary-Kay Swanson, Executive Assistant
Office of the Vermont Attorney General
ago.info@vermont.gov

(for Office of
the Vermont
Attorney
General)

Mark Levine, M.D., Commissioner
Vermont Department of Health
AHS.VDHPSB@vermont.gov

(for Vermont
Department of
Health)

Senior Historic Preservation Review Coordinator Survey Archaeologist
Vermont Division for Historic Preservation
accd.projectreview@vermont.gov

(for Vermont
Division for
Historic
Preservation)